AltWater

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ACKNOWLEDGEMENT

Funded by

Ministry of Foreign Affairs of the Netherlands

CONTENT

- Introduction
- Project set up
- Case studies
- Early results

INTRODUCTION

“Enabling the assessment of alternative water supply systems to promote urban water security in the global south”

AltWater

4-years (started Sept. 16)

€700,000 project total value

www.altwater.un-ihe.org

INTRODUCTION

Proposal was co-developed with our southern partners

Primary data collection and local-level analysis to be conducted locally

IHE provide training and further data analysis and synthesis

All outputs free

All translated to local langauges

THE PROJECT

Aim

To assess current and potential future urban water supply and demand, and to assess the potential contribution of feasible alternative water supply systems

-enhance *resilience* to future change

-*diversification* of supply

-quantitative analysis, local context

-*complement* existing supplies and reduce pressure

THE PROJECT

Partners

ÁGUAS da REGIÃO de MAPUTO

FIPAG

ITS Institut Teknologi Sepuluh Nopember

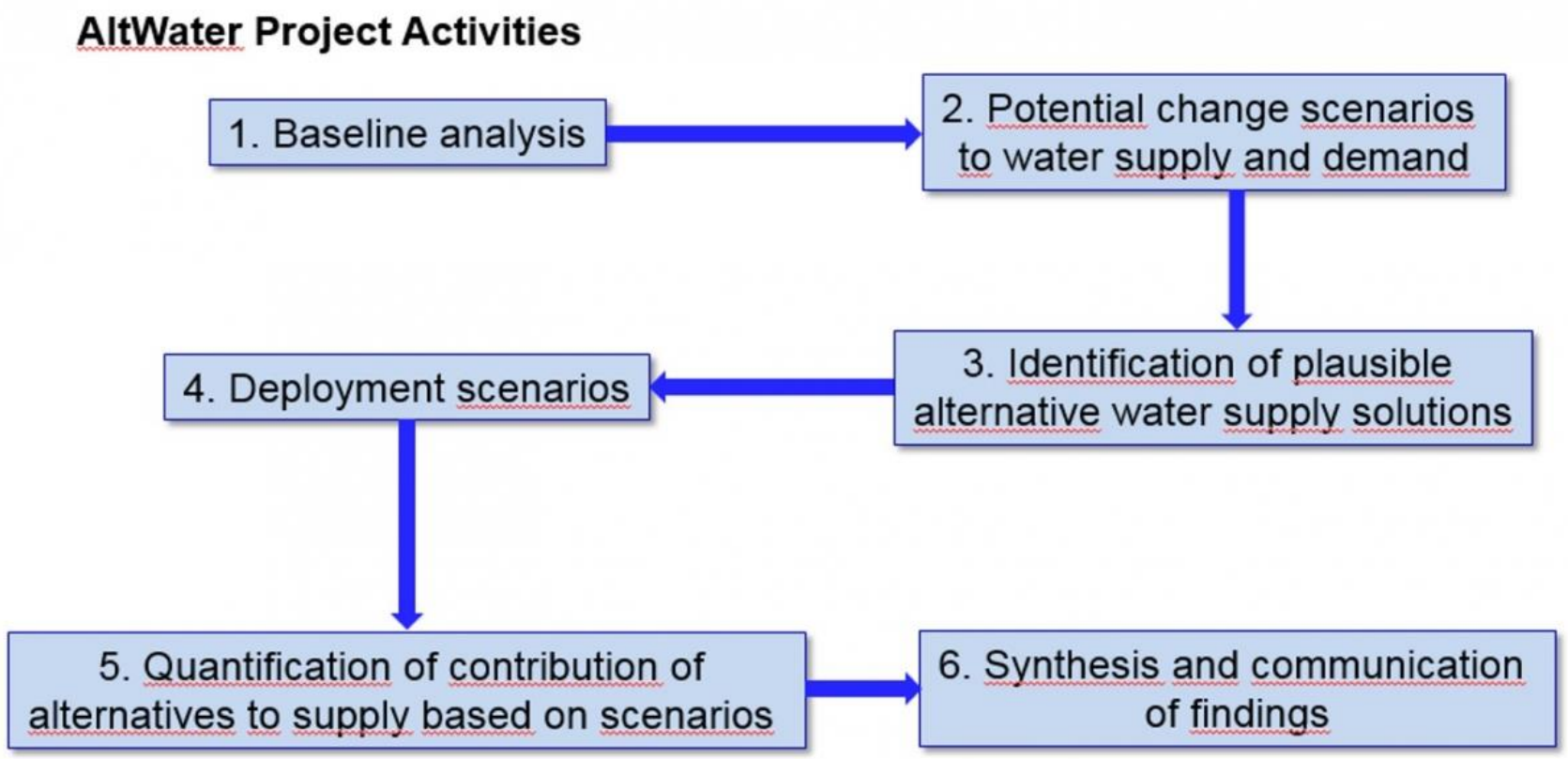
GRESIK

Vitens Evides international

The Nature Conservancy

GHD

THE PROJECT


AltWater Project Activities
1. Baseline analysis
2. Potential change scenarios to water supply and demand
3. Identification of plausible alternative water supply solutions
4. Deployment scenarios
5. Quantification of contribution of alternatives to supply based on scenarios
6. Synthesis and communication of findings

THE PROJECT

Follow an innovative leader-follower city approach

Hope to inspire locally-led training, collaboration and knowledge sharing

Supported by IHE

Focal contacts in each location will aid on-the-ground logistics

CASE STUDIES

Maputo, Mozambique (leader city)

1.7 million people

c. 40% access to good quality drinking water

Not 24hrs supply

NRW ~60%

Reduce freshwater use (groundwater, reservoirs) for non-essential consumption

CASE STUDIES

Beira, Mozambique (follower city)

c. 600,000 people

c. 40% (250,000) access to good quality drinking water

12 hr access

High NRW

Reduce freshwater use for non-essential consumption

CASE STUDIES

Surabaya, Indonesia (leader city)

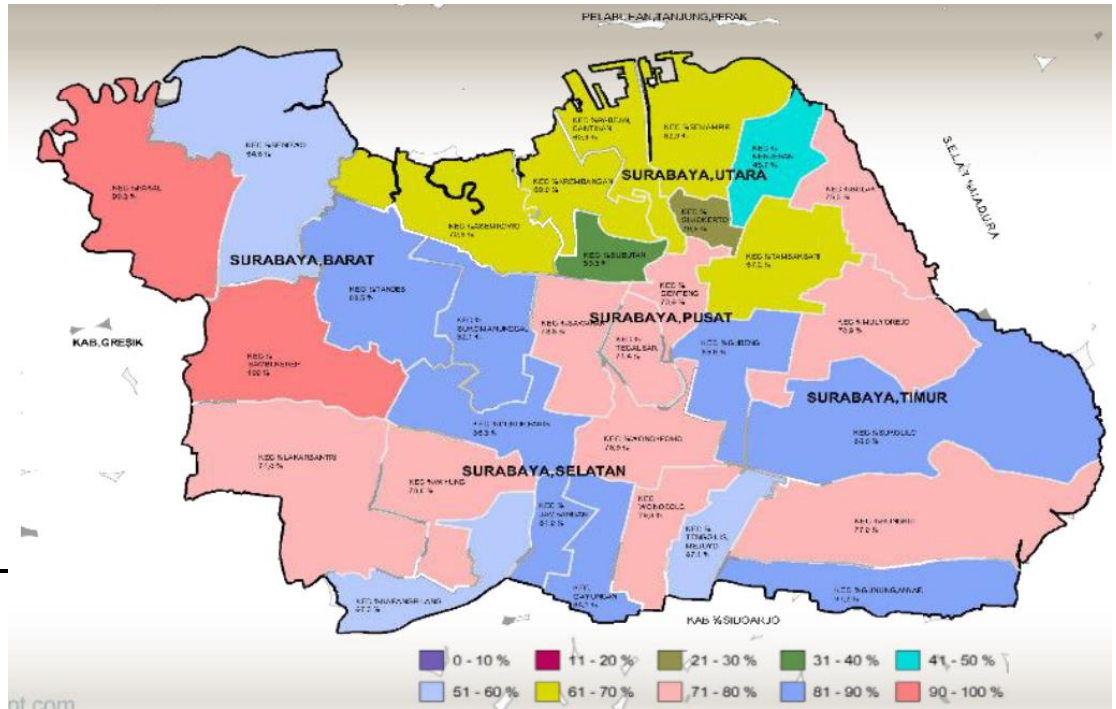
3.2 million people

4 main water sources (three springs, Surabaya River; c. 900,000m3/d)

40-100% service coverage

27% losses

Alternatives considered as new sources



CASE STUDIES

Gresik, Indonesia (follower city)

1.3 million people

Water from Surabaya River (primary source) and deep wells

30% losses

Unequal service coverage

Considering promoting rainwater and WW re-use

EARLY RESULTS

Pilot MSc projects (Osman Jussah and Mohamed Orabi)

Lilongwe, Malawi

-hot, humid

-low coverage

-high NRW

-4 city areas

Figure 3-1: Map of Malawi, source: (Tiwale, 2015)

Sharm El-Sheikh, Egypt

-extremely dry

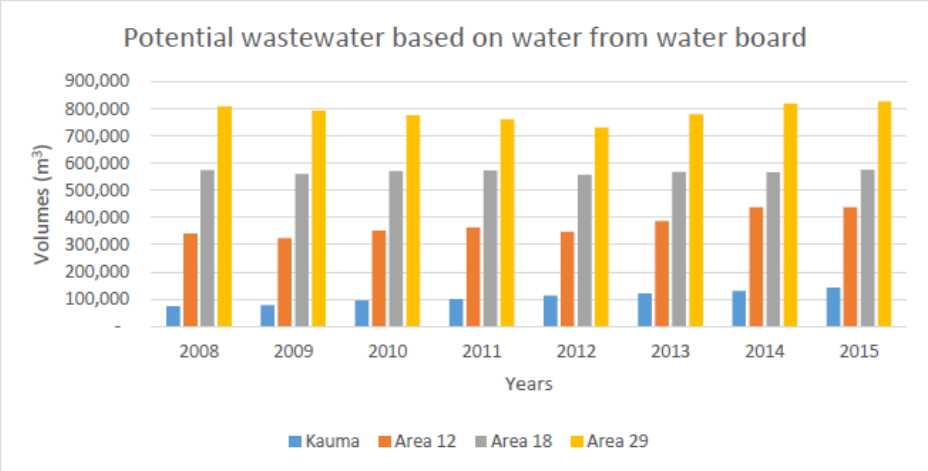
-high NRW

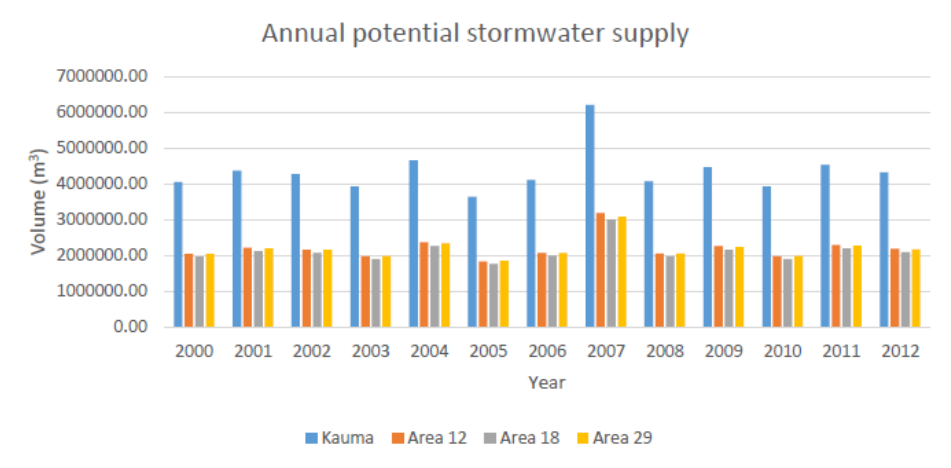
-high tourist demand

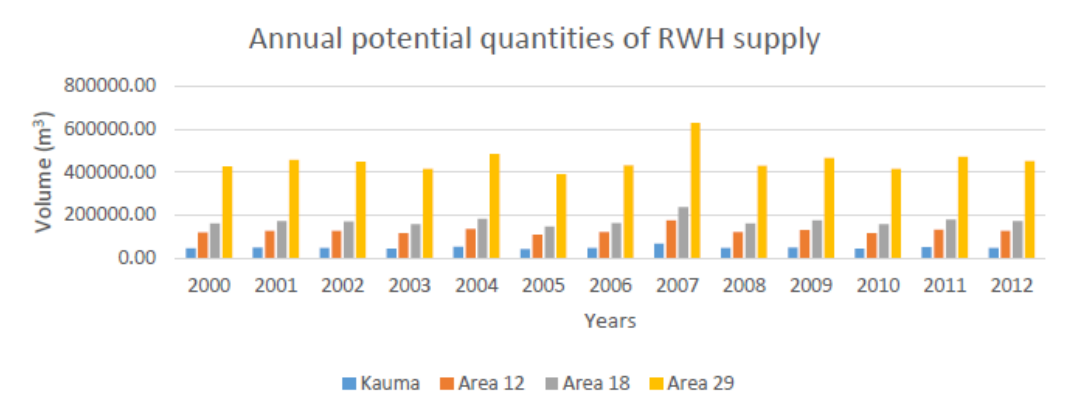
-already use alternatives (desalination)

EARLY RESULTS

Lilongwe







EARLY RESULTS

Lilongwe

Alternatives go some way to closing supply-demand gap

Barriers to uptake (technical, financial, social)

Survey indicated that most water would be for non-essential use

→ variable according to area

Uptake would reduce stress on current supplies

Demand-side measures also desirable

EARLY RESULTS

Sharm

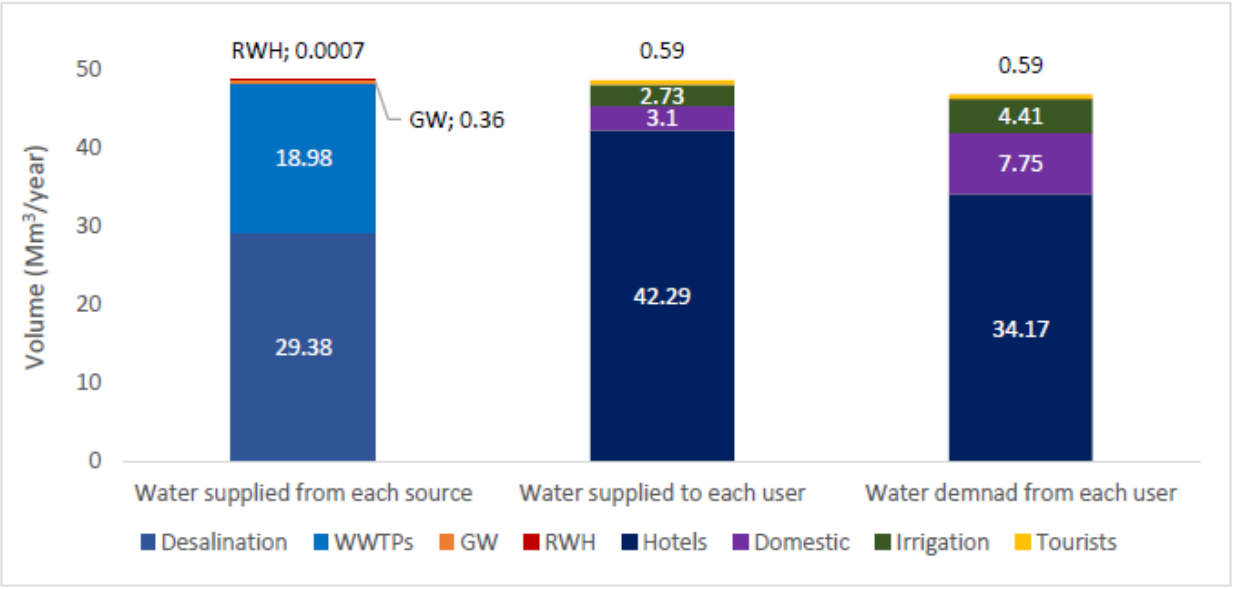


Figure 4.8 Annual water supply, demand and uses in Sharm 2016

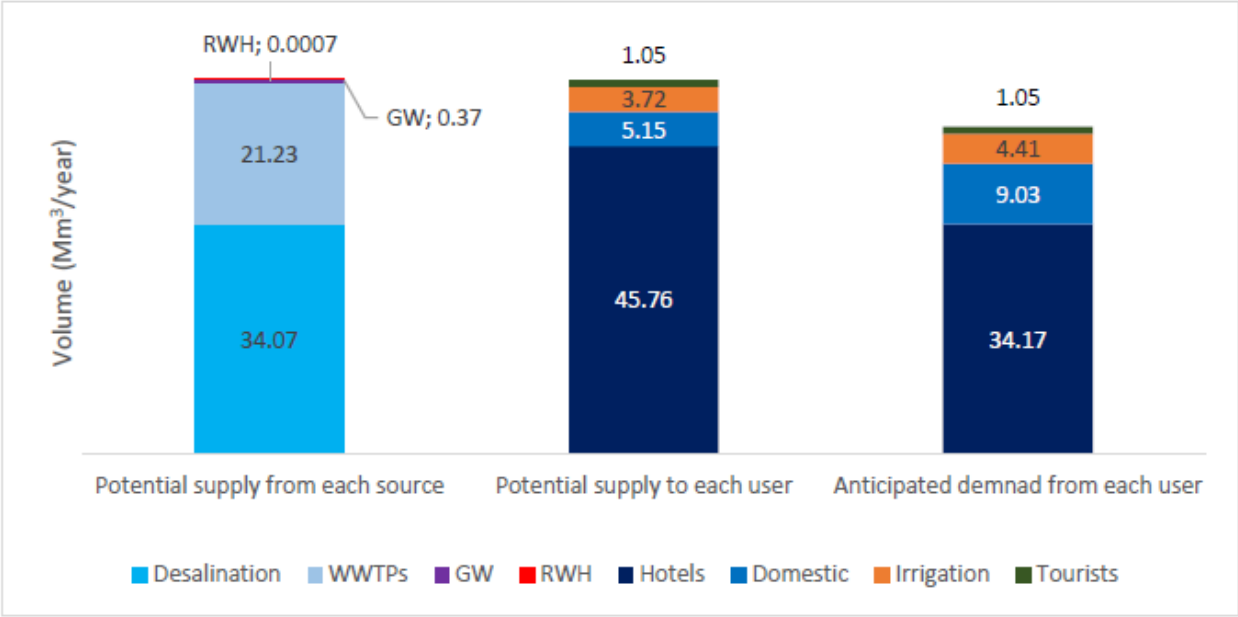


Figure 5.7 Potential water balance in Sharm by 2020

EARLY RESULTS

Sharm

RHW not feasible

SWH has large potential

Improvements to current system also offers large potential

Barriers (tourist sector, financial, technical, social)

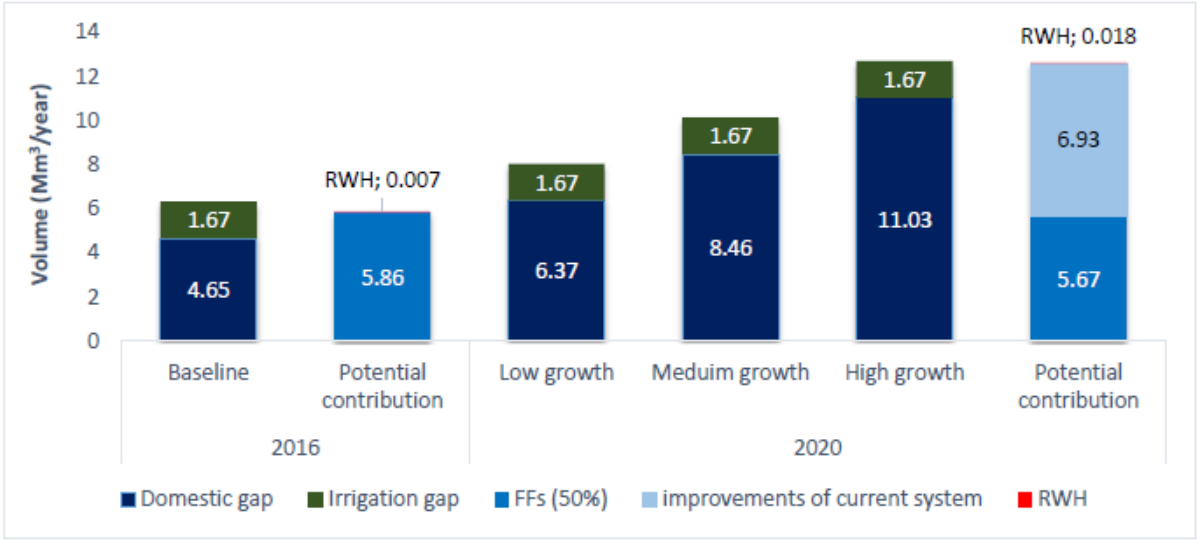


Figure 8.1 Potential contribution of current system, RWH and FFs to domestic & irrigation gap

CONCLUSION

The pilots will guide project development

Work already underway on baseline assessment

Training/information workshops support the process

Hope to start generating output toward the end of 2017

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